



GREENBLUM & BERNSTEIN, P.L.C.  
Intellectual Property Causes  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191

Image

AF/1731

Attorney Docket No. P19790

In re application of : Dr. Günter HALMSCHLAGER et al.

Serial No. : 09/646,119 ✓

Group Art Unit : 1731

Filed : October 30, 2000

Examiner : J. FORTUNA

For : MACHINE AND PROCESS FOR PRODUCING A MULTI-LAYERED FIBROUS WEB

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Transmitted herewith is a Response to Examiner's Communication in the above-captioned application.

- \_\_\_ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a previously filed statement.
- \_\_\_ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.
- \_\_\_ An Information Disclosure Statement, PTO Form 1449, and references cited.
- X Copies of Appeal Brief under 37 C.F.R. § 1.192 (in triplicate) and date-stamped filing receipt dated Oct. 21, 2003.
- X No additional fee is required.

The fee has been calculated as shown below:

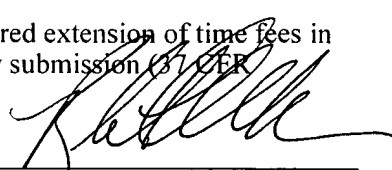
Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 52	*52	0	x 9=	\$	x 18=	\$ 0.00
Indep. Claims: 4	**4	0	x 43=	\$	x 86=	\$ 0.00
Multiple Dependent Claims Presented			+145=	\$	+290=	\$ 0.00
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Total:				\$	Total:	\$0.00

\*If less than 20, write 20

\*\*If less than 3, write 3

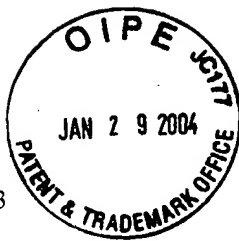
\_\_\_ Please charge my Deposit Account No. 19-0089 in the amount of \$ \_\_\_\_.

N/A A Check in the amount of \$ \_\_\_\_ to cover the filing fee is included.X The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.X Any additional filing fees required under 37 C.F.R. 1.16.X Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of time fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 C.F.R. 1.136)(a)(3).

  
Neil F. Greenblum  
Reg. No. 28,394

AF 55,543

P19790.A13



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants : Dr. Günter HALMSCHLAGER et al.  
Appln. No. : 09/646,119  
Filed : January 21, 2000  
§ 371 Date : October 30, 2000  
For : MACHINE AND PROCESS FOR PRODUCING A MULTI-LAYERED FIBROUS WEB

Group Art Unit: 1731  
Examiner: J. Fortuna

**RESPONSE TO EXAMINER'S COMMUNICATION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Responsive to the Examiner's communication of December 29, 2003, in which the Examiner asserts that three copies of the Appeal Brief were not submitted, Appellants submit herewith three copies of the Appeal Brief filed October 21, 2003 so as to be fully in compliance with the requirements of 37 C.F.R. 1.192(a). Appellants note that the period for responding to this communication, which is the longer of thirty days or one month, extends until January 29, 2004.

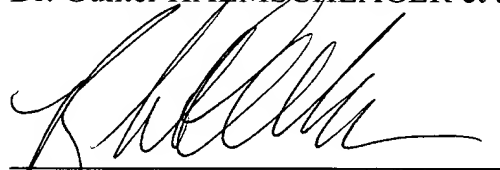
While Appellants also submit herewith a copy of the date stamped receipt confirming the receipt of the Appeal Brief Under 37 C.F.R. 1.192 (in triplicate) on October 21, 2003 in the U.S. Patent and Trademark Office's Office of Initial Patent Examination, to ensure that

P19790.A13

the official file is complete, Appellants are again submitting three copies of the instant Appeal Brief for consideration by the Examiner and the Board of Patent Appeals and Interferences.

Appellants further note that, as the requisite fee under 37 C.F.R. 1.17(c) has been paid for the instant appeal, no additional fee is necessary in Appellants resubmitting of three copies of the Appeal Brief. However, if for any reason an additional fee is deemed necessary, the undersigned authorizes the charging of any necessary fees to ensure consideration of the instant appeal to Deposit Account No. 19 - 0089.

Respectfully submitted,  
Dr. Günter HALMSCHLAGER et al

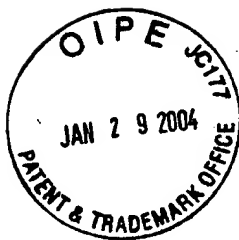


Neil F. Greenblum

Reg. No. 28,394

*RF 35,043*

January 29, 2004  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191



GREENBLUM & BERNSTEIN, P.L.C.  
Intellectual Property Causes  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191

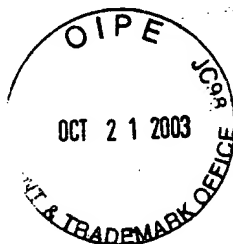
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File In: Millum

The Patent Office Date stamp hereon is an acknowledgement that, on the date indicated, the Patent Office received the following:

(X) Appeal Brief under 37 CFR § 1.192 (in triplicate)

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| <input type="checkbox"/> Amendment   | <input type="checkbox"/> Claim of Priority & Certified Copy of             |
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| <input type="checkbox"/> Utility Patent Application Transmittal                    | _____ pages (w/abstract)   |
| <input type="checkbox"/> Provisional Application Cover Sheet                       | _____ claims _____ independent   |
| <input type="checkbox"/> Continued Prosecution Application                         | _____ sheets of drawings   |
| <input type="checkbox"/> (CPA) Request Transmittal                                 | _____ figures  |
| <input type="checkbox"/> Request for Continued Examination (RCE)                   | <input type="checkbox"/> I.D.S. form PTO-1449 &                            |
| including submission   | References <input type="checkbox"/> as attached                            |
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In the matter of : MACHINE AND PROCESS FOR PRODUCING A MULT-LAYER FIBROUS MATERIAL WEB

Applicant : Gunter HALMSCHLAGER, et al.

Application No. : 09/646,119

Filed : 10/30/00

Patent No. :

Issued :

Docket : P19790

RWM



P19790.A12

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants : Dr. Günter HALMSCHLAGER et al.  
Appln. No. : 09/646,119  
Filed : January 21, 2000  
§ 371 Date : October 30, 2000  
For : MACHINE AND PROCESS FOR PRODUCING A MULTI-LAYERED FIBROUS WEB

Group Art Unit: 1731  
Examiner: J. Fortuna

**APPEAL BRIEF UNDER 37 C.F.R. § 1.192**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

COPY

This appeal is from the Examiner's final rejection of claims 46 - 52, 62 - 80, and 89 - 97 as set forth in the Final Official Action of April 21, 2003.

A Notice of Appeal in response to the April 21, 2003 Final Office Action was filed August 21, 2003, along with a Request for a One-month Extension of Time. Further, the instant Appeal Brief is being timely submitted by the two-month date from the Notice of Appeal of October 21, 2003.

As the requisite fee under 37 C.F.R. 1.17(c) in the amount of \$ 320.00 for the filing of the Appeal Brief was paid by check on July 29, 2002 with the original submission of Appellants' Appeal Brief, Appellants submit herewith a check in the amount of \$10.00 to make a total amount of \$330.00 submitted for filing the instant Appeal Brief. As the

Examiner reopened prosecution subsequent to receipt of Appellants' Brief, Appellants submit that the fee submitted with the original Appeal Brief is still on account in the U.S. Patent and Trademark Office, and that no additional fees are required for entry and consideration of the instant Appeal Brief. However, in the event that additional filing fees are deemed necessary, the undersigned authorizes the charging of any fees to ensure consideration of this Appeal Brief to Deposit Account No. 19 - 0089.

This appeal brief is being submitted in triplicate, pursuant to 37 C.F.R. 1.192(a).

**(1) REAL PARTY IN INTEREST**

The real party in interest is Voith Sulzer Papiertechnik Patent GmbH by an assignment recorded in the U.S. Patent and Trademark Office on October 30, 2000 at Reel 011271 and Frame 0625.

**(2) RELATED APPEALS AND INTERFERENCES**

No related appeals and/or interferences are pending.

**(3) STATUS OF THE CLAIMS**

Claims 46 - 97 are currently pending, i.e., claims 46 - 52, 62 - 80, and 89 - 97 stand finally rejected, while claims 53 - 61 and 81 - 88 have been allowed. Thus, only claims 46 - 52, 62 - 80, and 89 - 97 are at issue in the instant appeal.

**(4) STATUS OF THE AMENDMENTS**

No amendments have been entered subsequent to the Final Office Action of April 21, 2003.

**(5) SUMMARY OF THE INVENTION**

The instant invention is directed to a machine for producing a multi-layered fibrous web, e.g., a paper or cardboard web, in which the layers created by each former are couched together, i.e., connected. (Specification page 1, lines 3 - 6). According to an exemplary embodiment, the instant invention includes a machine arranged so that at least two layers, which are to be couched together, are formed so that each layer has on one side a higher content of fines, and the at least two layers are guided to the applicable couching zones in such a way that the sides having the higher content of fines come into contact with each other. (Specification page 2, lines 8 - 12). As a result of this arrangement, the web exhibits better layer adhesion, higher retention, a lower risk of so-called "sheet-sealing" effects, less residue during dewatering, less dusting, as well as exhibiting a positive influence on the paper characteristics concerning porosity, roughness, penetration characteristics, and printability. (Specification page 2, lines 14 - 18).

While a number of embodiments are discussed, each embodiment of the invention includes that each of the two layers to be couched together includes a side with a higher content of fines and the layers are guided to a couching zone in such a manner that the sides

with the higher fines contents come into contact with each other. (Specification page 6, line 30 - page 7, line 4)

In accordance with the invention, at least one of the at least two layers to be couched together in the manner discussed above can be formed by a gap former. (Specification page 2, line 20 - 21; Figure 3). Moreover, each of the at least two layers to be couched together in accordance with the invention can be formed by gap formers. (Specification page 2, lines 27 - 28; Figure 1). Still further, the layers to be couched together according to the features of the invention can be formed in a variety of manners. (Figures 2, 4, and 5).

**(6) ISSUES**

**(A) Whether Claims 46, 47, and 74 - 76 are Improperly Rejected Under 35 U.S.C. § 102(b) as being Anticipated by TURNER et al. (U.S. Patent No. 4,830,709) [hereinafter "TURNER"]; and**

**(B) Whether Claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are Improperly Rejected Under 35 U.S.C. § 103(a) as being Unpatentable Over TURNER.**

**(7) GROUPING OF CLAIMS**

For the purpose of this appeal, Appellants submit that the claims can be grouped for each identified issue as follows:

**(A) Claims 46 and 47 stand or fall together, and claims 75 and 76 stand or fall together. Claim 74 is separately patentable.**



(B) Claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are separately patentable.

Moreover, Appellants submit that the reasons for separate patentability of the noted claims is set forth hereinbelow.

(8) **ARGUMENT**

**(A) The Rejection of Claims 46, 47, and 74 - 76 Under 35 U.S.C. § 102(b) as being Anticipated by TURNER is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.**

The Examiner asserts that TURNER shows a device for making multi-ply paper in which the different plies are made in separate headboxes and couched together at their sides having more fines, and that column 2, lines 12 - 18 disclose that advantages of joining the plies using the surface having the most fines. Appellants traverse the Examiner's assertions.

Appellants' independent claim 46 recites, *inter alia*, at least two formers for forming at least two layers in which *each layer has a higher content of fines on one side* respectively, and a couching zone in which the at least two layers are couched together such that *each layer's side having a higher content of fines contact each other*, wherein at least one of the at least two formers comprises *at least one gap former*. Appellants' independent claim 75 recites, *inter alia*, forming at least two layers via at least two formers, such that *each layer has a side with a higher fines content*, and couching together the at least two layers in a couching zone so that *the sides with higher fines content contact each other*, wherein at least

one of the two layers is formed by *at least one gap former*. Appellants submit that TURNER fails to disclose at least the above-noted features of the instant invention.

Moreover, in the Final Action, the Examiner asserts that TURNER shows a device that has all of the structural limitations of the apparatus defined by the rejected claims, “because the device as shown is capable of joining the plies as claimed.” Appellants submit that, as this assertion is not accurate, the instant rejection is improper and should be reversed.

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art to show each and every limitation of a claimed invention. *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1321 (Fed. Cir. 2003); *Celeritas Technologies, Ltd. v. Rockwell International Corporation*, 150 F.3d 1354, 1360, 47 USPQ 2d 1516, 1522 (Fed. Cir. 1998); *Applied Medical Resources Corporation v. United States Surgical Corporation*, 147 F.3d 1374, 1377, 47 USPQ2d 1289, 1291 (Fed. Cir. 1998); *Rockwell International Corporation v. The United States, et al.*, 147 F.3d 1358, 47 USPQ2d 1027, 1029 (Fed. Cir. 1998).

The single piece of prior art must describe and enable all limitations of the claimed invention with “sufficient clarity and detail” so that those ordinarily skilled in the art would recognize that the claimed subject matter already existed in the prior art. *Elan Pharmaceuticals Inc. v. Mayo Foundation for Medical Education and Research*, 64 USPQ2d 1292, 1296 (Fed. Cir. 2002); *Crown Operations International, Ltd. v. Solutia Inc.*, 289 F.3d

1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002); *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990).

Appellants note that, while disclosing a multi-ply forming apparatus and process, TURNER fails to disclose a gap former arranged to produce a web layer having one side with higher fines content than the other, and, therefore, certainly fails to disclose joining the sides of the layers having the higher fines content together, as recited in at least independent claims 46 and 75. That is, because TURNER provides no disclosure that each web layer is formed to have one side with a higher fines content than the other, Appellants submit that the Examiner's assertions that TURNER is structurally the same as the recited invention is without basis in the art of record.

In view of the above, it is apparent that TURNER fails to disclose an arrangement or process in which that the sides of the web layers having the higher fines content are couched together in a couching zone. That is, because TURNER fails to provide the necessary structure to form the web layers in the manner recited in at least independent claims 46 and 75, Appellants submit that TURNER cannot even arguably anticipate the recited feature that the sides having the higher fines content (not taught by TURNER) are couched together, as is likewise recited in claims 46 and 75.

As Appellants have maintained throughout the prosecution of this application, the Examiner has made certain assumptions of the TURNER process and apparatus based upon

the disclosure in the instant application, which are not based upon any specific teaching presented in TURNER. In particular, Appellants note that the Examiner continues to construe the disclosure of TURNER in view of Appellants' own disclosure, instead of interpreting the disclosure of TURNER in light of that which was known to those ordinarily skilled in the art at the time of the instant invention. As such, Appellants submit that the Examiner misconstrues column 2, lines 12 - 18 of TURNER ("by dewatering through both surfaces of both the top and bottom plies, formation of the individual plies is accomplished faster and, equally important, the ply faces which come into ply bonding engagement are better prepared, by virtue of having more fines and less fillers at their surface, to remain permanently bonded together") as a teaching that one surface of each ply has a higher fines content than the other. However, Appellants submit that, when read without the benefit of Appellants' disclosure, one ordinarily skilled in the art would not understand TURNER to teach that which the Examiner asserts. Instead, the plain meaning of the words of TURNER merely discloses that the bonding surfaces have more fines than fillers, not that the bonding surfaces of layers have a higher fines content than their opposite surfaces.

Appellants submit that, as the Examiner's continued (mis)interpretation of TURNER is based solely upon review of the instant application and claims, the asserted rejection is not based upon the disclosure of TURNER. In particular, TURNER fails to disclose an arrangement or process to form one side of a web layer with a higher fines content than the

other side, and no disclosure of an arrangement or process in which sides of web layers having higher fines contents than their other sides are couched together, as recited in the independent claims. Thus, Appellants submit that the rejection is improper and should be withdrawn.

In contrast to the instant invention, TURNER specifically discloses a process and apparatus specially designed to join together ply faces that have “more fines and less fillers at their surface,” and that this objective is achieved through dewatering both surfaces of each ply. (TURNER, column 2, lines 12 - 18). However, TURNER provides absolutely no disclosure regarding that comparative amounts of fines between opposite sides of the web. Thus, Appellants submit that the only reasonable interpretation of TURNER’s disclosure, when considering only the disclosure of TURNER, is that the surfaces of each ply to be joined are dewatered so that the surfaces to be joined contain a higher content of fines than a content of fillers.

However, Appellants submit that ply surfaces having a higher fines to fillers content is not the same as a ply having one surface with a higher fines content than the other surface, which is recited in Appellants’ claims.

Moreover, because TURNER fails to provide any disclosure in which fines content between opposite sides of a same ply are compared, or even discussed, Appellants submit that there is no teaching in TURNER to even arguably interpret that web plies are formed to

have a higher fines content on one side than the other side, or that the sides of web plies having the higher fines content are couched together, as recited in at least independent claims 46 and 75.

In fact, Appellants note that even TURNER teaches against the Examiner's interpretation. As is expressly disclosed at column 1, lines 52 - 66,

The top ply is formed between two forming wires along a gently undulating path where the dewatering process is carried out through both its faces *to produce a web which has a more uniform distribution of fines, fillers and fibers on both its sides*, thus providing its surfaces with a greater affinity for ply bonding. This dewatering through both sides not only produces a more uniform, one-sided web (i.e., a web wherein *both sides are more nearly the same after the dewatering process*), but in addition, this degree of dewatering of the top ply is accomplished quickly so it can have a higher caliper and still be brought into ply bonding contact with the surface of the base ply which may be formed on an ordinary fourdrinier-type papermaking machine. [emphasis added].

Thus, Appellants submit that, as TURNER expressly discloses an intention to produce a *uniform web* in which *both sides are more nearly the same* after dewatering, the Examiner's assertions of anticipation are contrary to the express disclosure of the applied document.

Further, Appellants note that, while the surfaces of the individual layers to be couched together according to the instant invention may have a higher fines content than filler content, in order to anticipate the instant invention TURNER must disclose every recited feature of the invention, including that each layer has a higher fines content on one side, and that the

sides with the higher fines content are couched together in a couching zone, as recited in at least independent claims 46 and 75.

Moreover, Appellants note that, by expressly disclosing an intention to “produce a web having a *more uniform distribution* of fines, fillers and fibers *on both sides*, thus providing *its surfaces* with a greater affinity for ply bonding,” [emphasis added]. (TURNER, column 1, lines 54 - 57), TURNER fails to provide any teaching of couching together surfaces of individual plies having a higher fines content than its opposite ply surface. In other words, as TURNER’s expressed intent of a uniform distribution of fines, fillers, and fibers on both sides is contrary to forming individual plies having a higher fines content on one surface as compared to its other surface. Thus, Appellants submit that TURNER fails to provide any disclosure of an apparatus or process for couching together the surfaces of each ply having a higher content of fines than its other ply surface, as recited in at least independent claims 46 and 75. Instead, the only guidance to the practitioner in the art provided by TURNER is that, in the production of a layered web, *both surfaces* of each ply are formed to be uniform and essentially the same, i.e., with a higher content of fines to fillers, so that each surface of each ply is provided with a greater affinity for ply bonding.

Thus, Appellants submit that, as TURNER fails to disclose every recited feature of the instant invention, the Examiner has failed to provide any adequate evidentiary basis to

support a rejection of anticipation under 35 U.S.C. § 102(b). Thus, Appellants submit that the instant rejection is improper and should be withdrawn.

Further, contrary to the Examiner's assertions, no admission has been made by Appellants that merely forming a web on a single wire produces a higher content of fines on the unsupported side, nor have Appellants admitted that it is well known that the unsupported side contains the most fines due to less dewatering. While the "Background of the Invention" section of the instant application identifies a number of known formers, this disclosure also sets forth specific action necessary to achieve a concentration of fines at a particular side of the web, Appellants have made no representations that this information is prior art. Moreover, while a fourdrinier former is discussed, the background discussion is not an admission that the concentration of fines at the upper side achieved with power pulses was known to those ordinarily skilled in art at the time of the invention.

Moreover, notwithstanding Appellants' background discussion, Appellants note that TURNER fails to disclose that the employed fourdrinier former utilizes power pulses to control the concentration of fines, and specifically discloses that its process and apparatus utilize dewatering through both surfaces of both the top and bottom plies so that a desired uniformity and bonding affinity, i.e., a higher content of fines to fillers, for both sides is achieved.



Thus, Appellants note that, even assuming, *arguendo*, one were to consider Appellants' discussion of background information as an admission of prior art (which Appellants submit it is not), the disclosed apparatus and process of TURNER, which expressly discloses dewatering through both sides of each ply, is contrary to this disclosure. Moreover, it would not have been apparent to modify TURNER in view of this information because to do so would eliminate TURNER's intention of producing a uniform web in which each surface has an affinity for bonding by having a higher content of fines to fillers.

Because TURNER fails to disclose at least the above-noted features, Appellants submit that the applied art fails to disclose each and every recited feature of the instant invention. Accordingly, Appellants submit that the Examiner has failed to establish an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(b), and that the instant rejections are improper and should be withdrawn.

Further still, Appellants submit that even if it is considered that the prior art documents anticipate the invention recited in the independent claims, which Appellants submit they do not, the applied documents fail to anticipate the various recited parameters of the formers and/or their arrangement within the apparatus for producing the multilayered web in accordance with the features of the instant invention. Thus, Appellants submit that claims 47, 74, and 76 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define

the present invention. Moreover, Appellants further submit that claim 74 is separately patentable TURNER. In particular, Appellants submit that TURNER fails to anticipate, *inter alia*, *uniform pressure dewatering elements* for web dewatering, as recited in claim 74.

Accordingly, Appellants request that the Board reverse the Examiner's decision to finally reject claims 46, 47, and 74 - 76 under 35 U.S.C. § 102(b), and that the application be remanded to the Examiner for withdrawal of the rejection over TURNER and an early allowance of all claims on appeal.

**(B) The Rejection of Claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 Under 35 U.S.C. § 103(a) as being Unpatentable Over TURNER is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.**

The Examiner asserts that, while TURNER fails to disclose various recited features of the instant invention, the Examiner asserts that these features are functionally equivalent element and the use of one for the other would have been obvious. Appellants traverse the Examiner's assertions.

Rejections based on 35 U.S.C. § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Examiner has the initial duty of supplying the factual basis for the rejection and may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis. *See In re Warner*, 379

F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967). As stated in *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984):

[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

It is apparent that the only reason to modify TURNER in the manner proposed by the Examiner results from a review of Appellants' disclosure and the application impermissible hindsight.

Appellants submit that, because TURNER expressly discloses that both surfaces of the plies to be dewatered and joined are formed to have a more uniform distribution of fines, fillers and fibers, and because it is the intention of TURNER that this dewatering procedure produce web plies in which both sides of the web are more nearly the same, TURNER fails to teach or even arguably suggest the subject matter noted above as deficient in TURNER.

That is, Appellants submit that TURNER fails to teach or suggest producing a individual layers in which each layer has a side having a higher content of fines than the other side, and fails to teach that these sides having the higher fines content are couched together, as recited in at least independent claims 46 and 75. Moreover, as discussed above, the Examiner's interpretation of TURNER's disclosure is colored by his review of Appellants' disclosure and claims. Similarly, Appellants submit that the Examiner's

assertions of obviousness are likewise based upon this improper interpretation of TURNER as a result of a review of Appellants' invention.

Accordingly, Appellants submit that TURNER fails to provide the requisite motivation or rationale for modification in the manner asserted by the Examiner, and that the Examiner's assertions of obviousness are based, not upon any particular teaching or suggestion provided in TURNER, but instead are based upon an improper interpretation of TURNER after reviewing Appellants' disclosure and claims. Thus, Appellants submit that the instant obviousness rejection is based upon the use of impermissible hindsight, such that Appellants invention suggests the Examiner's interpretation of the art of record.

Further, because TURNER fails to provide any teaching or suggestion with regard to forming a web ply having a surface with a higher fines content than its other surface, Appellants submit that TURNER cannot teach or suggest the recited apparatus and/or process features of the present invention that achieve this result. Accordingly, Appellants submit that no proper modification of TURNER teaches or suggests the combination of features recited in at least the independent claims, and, therefore, that TURNER fails to render unpatentable the instant invention.

In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the Examiner to provide a reason *why* one of ordinary skill in the art would have found it obvious to modify a prior art reference or to combine reference teachings to

arrive at the claimed invention. *See Ex parte Clapp*, 227 USPQ 972 (BPAI 1985) To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from Applicant's disclosure. *See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Notwithstanding the Examiner's statement in the rejection that it would have been obvious to modify TURNER, Appellants contend that the Examiner has not set forth any reasons *why* one of ordinary skill in the art would have been led to modify the apparatus and process of TURNER. It is respectfully submitted that the courts have long held that it is impermissible to use Appellants' claimed invention as an instruction manual or "template" to piece together teachings of the prior art so that the claimed invention is purportedly rendered obvious. *See In re Fritch*, 972 R.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

While the Examiner has made sweeping unsubstantiated assertions regarding the interchangeability of various formers, he has not provided any teaching or suggestion why it would have been obvious or even possible for these formers to produce a web layer having a higher content of fines on one side, as is recited in the pending claims. By way of example, Appellants note that, while TURNER discloses a former that includes two converging forming wires, the crescent former of U.S. Patent No. 3,378,435 includes a forming wire and a felt arranged to converge. Thus, as the two formers are structurally distinct from each

other, Appellants submit that it is not apparent that substituting a crescent former for the former of TURNER would enable TURNER to operate in its intended manner, i.e., there is no teaching or suggestion in the art of record that the crescent former forms a layer having a bonding surface with a higher content of fines than fillers, as required by TURNER. Similar defects arise with the Examiner's other baseless assertions of obviousness.

Because it is not apparent from the art of record that the crescent former (or any other type of former) will enable TURNER to operate in its intended manner, Appellants submit that the art of record fails to provide the necessary motivation or rationale for combining the applied art in the manner asserted by the Examiner.

Moreover, because the Examiner has not shown that it would have been apparent from the disclosure TURNER to form the web layers having one side with a higher fines content than the other side, Appellants submit that there is certainly no suggestion of an arrangement in which sides of web layers having the higher fines content are couched together in a couching zone, as recited in at least independent claims 46 and 75.

As alluded to above, Appellants note that the Examiner has not provided any documentary evidence that changing the former of TURNER would not prevent TURNER from forming its intended web plies, i.e., to be uniform on each side with regard to fines, fillers and fibers, and to exhibit a higher content of fines than fillers on both sides of each ply. In other words, while, generally speaking, formers are utilized for similar purposes, i.e.,

to form and dewater the web, there is no teaching or suggestion that any of the formers noted by the Examiner would achieve the desired results of TURNER, and certainly no suggestion that these formers would operate in the manner recited in at least independent claims 46 and 75.

Moreover, Appellants submit that, if the desired results of TURNER are not achieved by the asserted modification, then it would not have been obvious to modify TURNER in the manner set forth by the Examiner. Further, Appellants note that it is the Examiner's burden to show that the asserted modification would not be contrary to the intended operation of TURNER, which the Examiner has not shown.

Of course, Appellants further submit that, even assuming, *arguendo*, that the art of record suggested that the asserted modification of TURNER enabled modified TURNER to operate in its intended manner (which Appellants submit it does not), such an apparatus or process, as discussed above, does not correspond to the apparatus and process recited in at least independent claims 46 and 75. Thus, notwithstanding whether the asserted modification is proper (which Appellants submit it is not), no proper modification of TURNER renders the instant invention obvious.

Further, Appellants submit that even if it is considered that the prior art documents render unpatentable the invention recited in the independent claims, which Appellants submit they do not, the applied documents fail to anticipate the various recited parameters of the

formers and/or their arrangement within the apparatus for producing the multilayered web in accordance with the features of the instant invention. Thus, Appellants submit that claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Appellants further submit that claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are separately patentable TURNER. In particular, Appellants submit that TURNER fails to teach or suggest, *inter alia*, said at least one gap former comprises two circulating continuous dewatering belts convergingly arranged to form a headbox nip, and in which said dewatering belts are guided in an area of said headbox nip over a forming element, as recited in claim 48; a headbox arranged to supply a fibrous suspension to said headbox nip, as recited in claim 49; said forming element comprises a *forming roll*, as recited in claim 50; said at least one gap former comprises a *first gap former* and a *second gap former* arranged to form at least two layers, wherein *the higher content of fines side of said at least two layers occurs on a forming element side*, as recited in claim 51; the *web travel directions* of said first and second gap formers are *opposite each other*, as recited in claim 52; a first layer of the at least two layers to be couched together, is created by a fourdrinier former and sheet formation of the first layer occurs with the *higher content of fines on an outer side facing away from a continuous wire*, and wherein a second layer is created by said at least one gap former and sheet formation occurs in the second layer with



*a higher content of fines on the forming element side*, as recited in claim 62; *a stream direction* of a headbox associated with said first gap former *correlates in general with the travel direction of the first layer* created by said fourdrinier former, as recited in claim 63; the second layer created by said at least one gap former is introduced, after a separation of said two dewatering belts of said at least one gap former, *together with said outer dewatering belt into said couching zone* in which the second layer is joined with said continuous belt for the first and second layers to be couched together, as recited in claim 64; said continuous wire is guided in said couching zone in a generally horizontal direction, as recited in claim 65; *a second gap former* arranged to form a third layer, wherein sheet formation of the third layer occurs with a higher content of fines on a forming element side, and wherein the third layer is couched together with the second layer in a second couching zone, as recited in claim 66; the stream direction of a headbox associated with said *second gap former* corresponds to the travel direction of the first layer created by said fourdrinier former, as recited in claim 67; the third layer is introduced after separation of said two dewatering belts of said *second gap former* together with said outer dewatering belt into said second couching zone, wherein the second layer is brought together with said continuous belt for couching together the second and third layers formed by said first and second gap formers, as recited in claim 68; said continuous wire is guided at least in the area of said couching zones in a generally horizontal direction, as recited in claim 69; *at least one additional gap former* arranged for

the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other, as recited in claim 70; the stream direction of said headbox associated with said *at least one additional gap former* corresponds to the travel direction of the fibrous web to be created, as recited in claim 71; at least one of a *multi-layered headbox* and a *single layered headbox* is provided, as recited in claim 72; at least one *single layered headbox* is provided, as recited in claim 73; the at least one gap former comprises two circulating continuous dewatering belts that run together forming a headbox nip and which are guided in the area of the headbox nip, loaded with a fibrous suspension by a headbox, over a forming element, as recited in claim 77; the forming element comprises a *forming roll*, as recited in claim 78; the at least one gap former comprises a *first gap former* and a *second gap former* arranged to form at least two layers, wherein the *higher content of fines side of said at least two layers occurs on a forming element side*, as recited in claim 79; the *first and second gap formers* are operated in *opposite web travel directions*, as recited in claim 80; the first of the at least two layers to be couched together is created by a fourdrinier former and sheet formation of the first layer occurs with a *higher content of fines on the*

*outside facing away from the continuous wire*, and the second layer is created by the at least one gap former and sheet formation occurs in the second layer with *a higher content of fines on a forming element side*, as recited in claim 89; the *stream direction* of a headbox associated with the first gap former *correlates in general with the travel direction of the first layer created by the fourdrinier former*, as recited in claim 90; the second layer created by the at least one gap former is guided to the couching zone after separation of the two dewatering belts of the at least one gap former *together with the outer dewatering belt*, in which the second layer is joined together with the continuous belt for the first and second layers to be couched together, as recited in claim 91; a *second gap former* is arranged to form a third layer wherein sheet formation of the third layer occurs with a higher content of fines on the forming element side, and wherein the third layer is couched together with the second layer in a second couching zone, as recited in claim 92; the stream direction of a headbox associated with the *second gap former* corresponds to the travel direction of the first layer formed by the fourdrinier former, as recited in claim 93; the *third layer* is introduced after separation of the two dewatering belts of the *second gap former* together with the outer dewatering belt into the second couching zone in which it is brought together with the continuous belt for the couching of the second and third layer formed by the first and second gap formers, as recited in claim 94; at least one *additional gap former* is arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional

layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other, as recited in claim 95; the *stream direction* of a headbox associated with the *additional gap former* corresponds to the *travel direction of the fibrous web* to be created, as recited in claim 96; and at least one of a *multi-layered headbox* and *single-layered headbox* is used, as recited in claim 97.

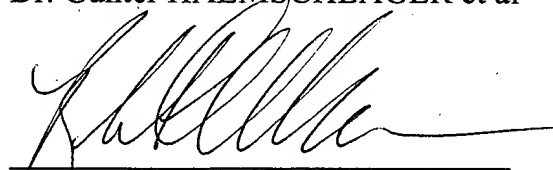
Accordingly, Appellants request that the Board reverse the Examiner's decision to finally reject claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 under 35 U.S.C. § 103(a), and that the application be remanded to the Examiner for withdrawal of the rejection over TURNER and an early allowance of all claims on appeal.

**(C) Conclusion**

Claims 46, 47, and 74 - 76 are patentable under 35 U.S.C. § 102(b) over TURNER; and claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 under 35 U.S.C. § 103(a) over TURNER. Specifically, the applied art of record fails to anticipate or render unpatentable the invention recited in Appellants' claims 46 - 52, 62 - 80, and 89 - 97. Accordingly, Appellants respectfully request that the Board reverse the outstanding rejections of the claims 46, 47, and 74 - 76 under 35 U.S.C. § 102(b) and of claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 under 35 U.S.C. § 103(a), and remand the application to the Examiner for withdrawal of the rejections and allowance of the application.

Thus, Appellants respectfully submit that each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a), and that the present application and each pending claim are allowable over the prior art of record.

Respectfully submitted,  
Dr. Günter HALMSCHLAGER et al



Neil F. Greenblum

Reg. No. 28,394

*35,813*

P19790.A12

October 21, 2003  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191

Attachment: Appendix: Claims on Appeal

**APPENDIX**

***CLAIMS ON APPEAL***

46. A machine for the production of a multi-layered fibrous web, comprising:  
at least two formers for forming at least two layers in which each layer has a higher content of fines on one side respectively; and  
a couching zone in which the at least two layers are couched together such that each layer's side having a higher content of fines contact each other;  
wherein at least one of the at least two formers comprises at least one gap former.
47. The machine according to claim 46, wherein the fibrous web comprises one of a paper web and cardboard web.
48. The machine according to claim 46, wherein said at least one gap former comprises two circulating continuous dewatering belts convergingly arranged to form a headbox nip, and in which said dewatering belts are guided in an area of said headbox nip over a forming element.
49. The machine according to claim 48, further comprising a headbox arranged to supply a fibrous suspension to said headbox nip.
50. The machine according to claim 48, wherein said forming element comprises a forming roll.
51. The machine according to claim 49, wherein said at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers,

wherein the higher content of fines side of said at least two layers occurs on a forming element side.

52. The machine according to claim 51, wherein the web travel directions of said first and second gap formers are opposite each other.

62. The machine according to claim 48, wherein a first layer of the at least two layers to be couched together, is created by a fourdrinier former and sheet formation of the first layer occurs with the higher content of fines on an outer side facing away from a continuous wire, and wherein a second layer is created by said at least one gap former and sheet formation occurs in the second layer with a higher content of fines on the forming element side.

63. The machine according to claim 62, wherein a stream direction of a headbox associated with said first gap former correlates in general with the travel direction of the first layer created by said fourdrinier former.

64. The machine according to claim 62, wherein the second layer created by said at least one gap former is introduced, after a separation of said two dewatering belts of said at least one gap former, together with said outer dewatering belt into said couching zone in which the second layer is joined with said continuous belt for the first and second layers to be couched together.



65. The machine according to claim 64, wherein said continuous wire is guided in said couching zone in a generally horizontal direction.

66. The machine according to claim 62, further comprising a second gap former arranged to form a third layer, wherein sheet formation of the third layer occurs with a higher content of fines on a forming element side, and wherein the third layer is couched together with the second layer in a second couching zone.

67. The machine according to claim 66, wherein the stream direction of a headbox associated with said second gap former corresponds to the travel direction of the first layer created by said fourdrinier former.

68. The machine according to claim 66, wherein the third layer is introduced after separation of said two dewatering belts of said second gap former together with said outer dewatering belt into said second couching zone, wherein the second layer is brought together with said continuous belt for couching together the second and third layers formed by said first and second gap formers.

69. The machine according to claim 66, wherein said continuous wire is guided at least in the area of said couching zones in a generally horizontal direction.

70. The machine according to claim 53, further comprising at least one additional gap former arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element

side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other.

71. The machine according to claim 70, wherein the stream direction of said headbox associated with said at least one additional gap former corresponds to the travel direction of the fibrous web to be created.

72. The machine according to claim 70, wherein at least one of a multi-layered headbox and a single layered headbox is provided.

73. The machine according to claim 48, wherein at least one single layered headbox is provided.

74. The machine according to claim 46, further comprising uniform pressure dewatering elements for web dewatering.

75. A process for the production of a multi-layered fibrous web, comprising:  
forming at least two layers via at least two formers, such that each layer has a side with a higher fines content;

couching together the at least two layers in a couching zone so that the sides with higher fines content contact each other;

wherein at least one of the at least two layers is formed by at least one gap former.

76. The process according to claim 75, wherein the fibrous web comprises one of a paper web or a cardboard web.

77. The process according to claim 75, wherein the at least one gap former comprises two circulating continuous dewatering belts that run together forming a headbox nip and which are guided in the area of the headbox nip, loaded with a fibrous suspension by a headbox, over a forming element.

78. The process according to claim 77, wherein the forming element comprises a forming roll.

79. The process according to claim 77, wherein the at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of said at least two layers occurs on a forming element side.

80. The process according to claim 79, wherein the first and second gap formers are operated in opposite web travel directions.

89. The process according to claim 75, wherein the first of the at least two layers to be couched together is created by a fourdrinier former and sheet formation of the first layer occurs with a higher content of fines on the outside facing away from the continuous wire, and the second layer is created by the at least one gap former and sheet formation occurs in the second layer with a higher content of fines on a forming element side.

90. The process according to claim 89, wherein the stream direction of a headbox associated with the first gap former correlates in general with the travel direction of the first layer created by the fourdrinier former.

91. The process according to claim 89, wherein the second layer created by the at least one gap former is guided to the couching zone after separation of the two dewatering belts of the at least one gap former together with the outer dewatering belt, in which the second layer is joined together with the continuous belt for the first and second layers to be couched together.

92. The process according to claim 89, wherein a second gap former is arranged to form a third layer wherein sheet formation of the third layer occurs with a higher content of fines on the forming element side, and wherein the third layer is couched together with the second layer in a second couching zone.

93. The process according to claim 92, wherein the stream direction of a headbox associated with the second gap former corresponds to the travel direction of the first layer formed by the fourdrinier former.

94. The process according to claim 92, wherein the third layer is introduced after separation of the two dewatering belts of the second gap former together with the outer dewatering belt into the second couching zone in which it is brought together with the

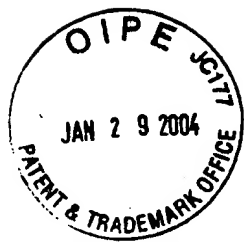
continuous belt for the couching of the second and third layer formed by the first and second gap formers.

95. The process according to claim 79, wherein at least one additional gap former is arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other.

96. The process according to claim 95, wherein the stream direction of a headbox associated with the additional gap former corresponds to the travel direction of the fibrous web to be created.

97. The process according to claim 77, wherein at least one of a multi-layered headbox and single-layered headbox is used.

P19790.A12



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants : Dr. Günter HALMSCHLAGER et al.  
Group Art Unit: 1731  
Appln. No. : 09/646,119  
Examiner: J. Fortuna  
Filed : January 21, 2000  
§ 371 Date : October 30, 2000  
For : MACHINE AND PROCESS FOR PRODUCING A MULTI-  
LAYERED FIBROUS WEB

**APPEAL BRIEF UNDER 37 C.F.R. § 1.192**

COPY

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

This appeal is from the Examiner's final rejection of claims 46 - 52, 62 - 80, and 89 - 97 as set forth in the Final Official Action of April 21, 2003.

A Notice of Appeal in response to the April 21, 2003 Final Office Action was filed August 21, 2003, along with a Request for a One-month Extension of Time. Further, the instant Appeal Brief is being timely submitted by the two-month date from the Notice of Appeal of October 21, 2003.

As the requisite fee under 37 C.F.R. 1.17(c) in the amount of \$ 320.00 for the filing of the Appeal Brief was paid by check on July 29, 2002 with the original submission of Appellants' Appeal Brief, Appellants submit herewith a check in the amount of \$10.00 to make a total amount of \$330.00 submitted for filing the instant Appeal Brief. As the

Examiner reopened prosecution subsequent to receipt of Appellants' Brief, Appellants submit that the fee submitted with the original Appeal Brief is still on account in the U.S. Patent and Trademark Office, and that no additional fees are required for entry and consideration of the instant Appeal Brief. However, in the event that additional filing fees are deemed necessary, the undersigned authorizes the charging of any fees to ensure consideration of this Appeal Brief to Deposit Account No. 19 - 0089.

This appeal brief is being submitted in triplicate, pursuant to 37 C.F.R. 1.192(a).

**(1) REAL PARTY IN INTEREST**

The real party in interest is Voith Sulzer Papiertechnik Patent GmbH by an assignment recorded in the U.S. Patent and Trademark Office on October 30, 2000 at Reel 011271 and Frame 0625.

**(2) RELATED APPEALS AND INTERFERENCES**

No related appeals and/or interferences are pending.

**(3) STATUS OF THE CLAIMS**

Claims 46 - 97 are currently pending, i.e., claims 46 - 52, 62 - 80, and 89 - 97 stand finally rejected, while claims 53 - 61 and 81 - 88 have been allowed. Thus, only claims 46 - 52, 62 - 80, and 89 - 97 are at issue in the instant appeal.

**(4) STATUS OF THE AMENDMENTS**

No amendments have been entered subsequent to the Final Office Action of April 21, 2003.

**(5) SUMMARY OF THE INVENTION**

The instant invention is directed to a machine for producing a multi-layered fibrous web, e.g., a paper or cardboard web, in which the layers created by each former are couched together, i.e., connected. (Specification page 1, lines 3 - 6). According to an exemplary embodiment, the instant invention includes a machine arranged so that at least two layers, which are to be couched together, are formed so that each layer has on one side a higher content of fines, and the at least two layers are guided to the applicable couching zones in such a way that the sides having the higher content of fines come into contact with each other. (Specification page 2, lines 8 - 12). As a result of this arrangement, the web exhibits better layer adhesion, higher retention, a lower risk of so-called "sheet-sealing" effects, less residue during dewatering, less dusting, as well as exhibiting a positive influence on the paper characteristics concerning porosity, roughness, penetration characteristics, and printability. (Specification page 2, lines 14 - 18).

While a number of embodiments are discussed, each embodiment of the invention includes that each of the two layers to be couched together includes a side with a higher content of fines and the layers are guided to a couching zone in such a manner that the sides



with the higher fines contents come into contact with each other. (Specification page 6, line 30 - page 7, line 4)

In accordance with the invention, at least one of the at least two layers to be couched together in the manner discussed above can be formed by a gap former. (Specification page 2, line 20 - 21; Figure 3). Moreover, each of the at least two layers to be couched together in accordance with the invention can be formed by gap formers. (Specification page 2, lines 27 - 28; Figure 1). Still further, the layers to be couched together according to the features of the invention can be formed in a variety of manners. (Figures 2, 4, and 5).

**(6) ISSUES**

**(A) Whether Claims 46, 47, and 74 - 76 are Improperly Rejected Under 35 U.S.C. § 102(b) as being Anticipated by TURNER et al. (U.S. Patent No. 4,830,709) [hereinafter "TURNER"]; and**

**(B) Whether Claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are Improperly Rejected Under 35 U.S.C. § 103(a) as being Unpatentable Over TURNER.**

**(7) GROUPING OF CLAIMS**

For the purpose of this appeal, Appellants submit that the claims can be grouped for each identified issue as follows:

**(A) Claims 46 and 47 stand or fall together, and claims 75 and 76 stand or fall together. Claim 74 is separately patentable.**

(B) Claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are separately patentable.

Moreover, Appellants submit that the reasons for separate patentability of the noted claims is set forth hereinbelow.

(8) **ARGUMENT**

**(A) The Rejection of Claims 46, 47, and 74 - 76 Under 35 U.S.C. § 102(b) as being Anticipated by TURNER is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.**

The Examiner asserts that TURNER shows a device for making multi-ply paper in which the different plies are made in separate headboxes and couched together at their sides having more fines, and that column 2, lines 12 - 18 disclose that advantages of joining the plies using the surface having the most fines. Appellants traverse the Examiner's assertions.

Appellants' independent claim 46 recites, *inter alia*, at least two formers for forming at least two layers in which *each layer has a higher content of fines on one side* respectively, and a couching zone in which the at least two layers are couched together such that *each layer's side having a higher content of fines contact each other*, wherein at least one of the at least two formers comprises *at least one gap former*. Appellants' independent claim 75 recites, *inter alia*, forming at least two layers via at least two formers, such that *each layer has a side with a higher fines content*, and couching together the at least two layers in a couching zone so that *the sides with higher fines content contact each other*, wherein at least

one of the two layers is formed by *at least one gap former*. Appellants submit that TURNER fails to disclose at least the above-noted features of the instant invention.

Moreover, in the Final Action, the Examiner asserts that TURNER shows a device that has all of the structural limitations of the apparatus defined by the rejected claims, “because the device as shown is capable of joining the plies as claimed.” Appellants submit that, as this assertion is not accurate, the instant rejection is improper and should be reversed.

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art to show each and every limitation of a claimed invention. *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1321 (Fed. Cir. 2003); *Celeritas Technologies, Ltd. v. Rockwell International Corporation*, 150 F.3d 1354, 1360, 47 USPQ 2d 1516, 1522 (Fed. Cir. 1998); *Applied Medical Resources Corporation v. United States Surgical Corporation*, 147 F.3d 1374, 1377, 47 USPQ2d 1289, 1291 (Fed. Cir. 1998); *Rockwell International Corporation v. The United States, et al.*, 147 F.3d 1358, 47 USPQ2d 1027, 1029 (Fed. Cir. 1998).

The single piece of prior art must describe and enable all limitations of the claimed invention with “sufficient clarity and detail” so that those ordinarily skilled in the art would recognize that the claimed subject matter already existed in the prior art. *Elan Pharmaceuticals Inc. v. Mayo Foundation for Medical Education and Research*, 64 USPQ2d 1292, 1296 (Fed. Cir. 2002); *Crown Operations International, Ltd. v. Solutia Inc.*, 289 F.3d

1367, 1375, 62 USPQ2d 1917, 1921 (Fed. Cir. 2002); *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990).

Appellants note that, while disclosing a multi-ply forming apparatus and process, TURNER fails to disclose a gap former arranged to produce a web layer having one side with higher fines content than the other, and, therefore, certainly fails to disclose joining the sides of the layers having the higher fines content together, as recited in at least independent claims 46 and 75. That is, because TURNER provides no disclosure that each web layer is formed to have one side with a higher fines content than the other, Appellants submit that the Examiner's assertions that TURNER is structurally the same as the recited invention is without basis in the art of record.

In view of the above, it is apparent that TURNER fails to disclose an arrangement or process in which that the sides of the web layers having the higher fines content are couched together in a couching zone. That is, because TURNER fails to provide the necessary structure to form the web layers in the manner recited in at least independent claims 46 and 75, Appellants submit that TURNER cannot even arguably anticipate the recited feature that the sides having the higher fines content (not taught by TURNER) are couched together, as is likewise recited in claims 46 and 75.

As Appellants have maintained throughout the prosecution of this application, the Examiner has made certain assumptions of the TURNER process and apparatus based upon

the disclosure in the instant application, which are not based upon any specific teaching presented in TURNER. In particular, Appellants note that the Examiner continues to construe the disclosure of TURNER in view of Appellants' own disclosure, instead of interpreting the disclosure of TURNER in light of that which was known to those ordinarily skilled in the art at the time of the instant invention. As such, Appellants submit that the Examiner misconstrues column 2, lines 12 - 18 of TURNER ("by dewatering through both surfaces of both the top and bottom plies, formation of the individual plies is accomplished faster and, equally important, the ply faces which come into ply bonding engagement are better prepared, by virtue of having more fines and less fillers at their surface, to remain permanently bonded together") as a teaching that one surface of each ply has a higher fines content than the other. However, Appellants submit that, when read without the benefit of Appellants' disclosure, one ordinarily skilled in the art would not understand TURNER to teach that which the Examiner asserts. Instead, the plain meaning of the words of TURNER merely discloses that the bonding surfaces have more fines than fillers, not that the bonding surfaces of layers have a higher fines content than their opposite surfaces.

Appellants submit that, as the Examiner's continued (mis)interpretation of TURNER is based solely upon review of the instant application and claims, the asserted rejection is not based upon the disclosure of TURNER. In particular, TURNER fails to disclose an arrangement or process to form one side of a web layer with a higher fines content than the

other side, and no disclosure of an arrangement or process in which sides of web layers having higher fines contents than their other sides are couched together, as recited in the independent claims. Thus, Appellants submit that the rejection is improper and should be withdrawn.

In contrast to the instant invention, TURNER specifically discloses a process and apparatus specially designed to join together ply faces that have “more fines and less fillers at their surface,” and that this objective is achieved through dewatering both surfaces of each ply. (TURNER, column 2, lines 12 - 18). However, TURNER provides absolutely no disclosure regarding that comparative amounts of fines between opposite sides of the web. Thus, Appellants submit that the only reasonable interpretation of TURNER’s disclosure, when considering only the disclosure of TURNER, is that the surfaces of each ply to be joined are dewatered so that the surfaces to be joined contain a higher content of fines than a content of fillers.

However, Appellants submit that ply surfaces having a higher fines to fillers content is not the same as a ply having one surface with a higher fines content than the other surface, which is recited in Appellants’ claims.

Moreover, because TURNER fails to provide any disclosure in which fines content between opposite sides of a same ply are compared, or even discussed, Appellants submit that there is no teaching in TURNER to even arguably interpret that web plies are formed to

have a higher fines content on one side than the other side, or that the sides of web plies having the higher fines content are couched together, as recited in at least independent claims 46 and 75.

In fact, Appellants note that even TURNER teaches against the Examiner's interpretation. As is expressly disclosed at column 1, lines 52 - 66,

The top ply is formed between two forming wires along a gently undulating path where the dewatering process is carried out through both its faces *to produce a web which has a more uniform distribution of fines, fillers and fibers on both its sides*, thus providing its surfaces with a greater affinity for ply bonding. This dewatering through both sides not only produces a more uniform, one-sided web (i.e., a web wherein *both sides are more nearly the same after the dewatering process*), but in addition, this degree of dewatering of the top ply is accomplished quickly so it can have a higher caliper and still be brought into ply bonding contact with the surface of the base ply which may be formed on an ordinary fourdrinier-type papermaking machine. [emphasis added].

Thus, Appellants submit that, as TURNER expressly discloses an intention to produce a *uniform web* in which *both sides are more nearly the same* after dewatering, the Examiner's assertions of anticipation are contrary to the express disclosure of the applied document.

Further, Appellants note that, while the surfaces of the individual layers to be couched together according to the instant invention may have a higher fines content than filler content, in order to anticipate the instant invention TURNER must disclose every recited feature of the invention, including that each layer has a higher fines content on one side, and that the

sides with the higher fines content are couched together in a couching zone, as recited in at least independent claims 46 and 75.

Moreover, Appellants note that, by expressly disclosing an intention to “produce a web having a *more uniform distribution* of fines, fillers and fibers *on both sides*, thus providing *its surfaces* with a greater affinity for ply bonding,” [emphasis added]. (TURNER, column 1, lines 54 - 57), TURNER fails to provide any teaching of couching together surfaces of individual plies having a higher fines content than its opposite ply surface. In other words, as TURNER’s expressed intent of a uniform distribution of fines, fillers, and fibers on both sides is contrary to forming individual plies having a higher fines content on one surface as compared to its other surface. Thus, Appellants submit that TURNER fails to provide any disclosure of an apparatus or process for couching together the surfaces of each ply having a higher content of fines than its other ply surface, as recited in at least independent claims 46 and 75. Instead, the only guidance to the practitioner in the art provided by TURNER is that, in the production of a layered web, *both surfaces* of each ply are formed to be uniform and essentially the same, i.e., with a higher content of fines to fillers, so that each surface of each ply is provided with a greater affinity for ply bonding.

Thus, Appellants submit that, as TURNER fails to disclose every recited feature of the instant invention, the Examiner has failed to provide any adequate evidentiary basis to



support a rejection of anticipation under 35 U.S.C. § 102(b). Thus, Appellants submit that the instant rejection is improper and should be withdrawn.

Further, contrary to the Examiner's assertions, no admission has been made by Appellants that merely forming a web on a single wire produces a higher content of fines on the unsupported side, nor have Appellants admitted that it is well known that the unsupported side contains the most fines due to less dewatering. While the "Background of the Invention" section of the instant application identifies a number of known formers, this disclosure also sets forth specific action necessary to achieve a concentration of fines at a particular side of the web, Appellants have made no representations that this information is prior art. Moreover, while a fourdrinier former is discussed, the background discussion is not an admission that the concentration of fines at the upper side achieved with power pulses was known to those ordinarily skilled in art at the time of the invention.

Moreover, notwithstanding Appellants' background discussion, Appellants note that TURNER fails to disclose that the employed fourdrinier former utilizes power pulses to control the concentration of fines, and specifically discloses that its process and apparatus utilize dewatering through both surfaces of both the top and bottom plies so that a desired uniformity and bonding affinity, i.e., a higher content of fines to fillers, for both sides is achieved.

Thus, Appellants note that, even assuming, *arguendo*, one were to consider Appellants' discussion of background information as an admission of prior art (which Appellants submit it is not), the disclosed apparatus and process of TURNER, which expressly discloses dewatering through both sides of each ply, is contrary to this disclosure. Moreover, it would not have been apparent to modify TURNER in view of this information because to do so would eliminate TURNER's intention of producing a uniform web in which each surface has an affinity for bonding by having a higher content of fines to fillers.

Because TURNER fails to disclose at least the above-noted features, Appellants submit that the applied art fails to disclose each and every recited feature of the instant invention. Accordingly, Appellants submit that the Examiner has failed to establish an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(b), and that the instant rejections are improper and should be withdrawn.

Further still, Appellants submit that even if it is considered that the prior art documents anticipate the invention recited in the independent claims, which Appellants submit they do not, the applied documents fail to anticipate the various recited parameters of the formers and/or their arrangement within the apparatus for producing the multilayered web in accordance with the features of the instant invention. Thus, Appellants submit that claims 47, 74, and 76 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define

the present invention. Moreover, Appellants further submit that claim 74 is separately patentable TURNER. In particular, Appellants submit that TURNER fails to anticipate, *inter alia*, *uniform pressure dewatering elements* for web dewatering, as recited in claim 74.

Accordingly, Appellants request that the Board reverse the Examiner's decision to finally reject claims 46, 47, and 74 - 76 under 35 U.S.C. § 102(b), and that the application be remanded to the Examiner for withdrawal of the rejection over TURNER and an early allowance of all claims on appeal.

**(B) The Rejection of Claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 Under 35 U.S.C. § 103(a) as being Unpatentable Over TURNER is in Error, the Rejection Should be Reversed, and the Application Should be Remanded to the Examiner.**

The Examiner asserts that, while TURNER fails to disclose various recited features of the instant invention, the Examiner asserts that these features are functionally equivalent element and the use of one for the other would have been obvious. Appellants traverse the Examiner's assertions.

Rejections based on 35 U.S.C. § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Examiner has the initial duty of supplying the factual basis for the rejection and may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis. *See In re Warner*, 379

F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967). As stated in *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984):

[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.

It is apparent that the only reason to modify TURNER in the manner proposed by the Examiner results from a review of Appellants' disclosure and the application impermissible hindsight.

Appellants submit that, because TURNER expressly discloses that both surfaces of the plies to be dewatered and joined are formed to have a more uniform distribution of fines, fillers and fibers, and because it is the intention of TURNER that this dewatering procedure produce web plies in which both sides of the web are more nearly the same, TURNER fails to teach or even arguably suggest the subject matter noted above as deficient in TURNER.

That is, Appellants submit that TURNER fails to teach or suggest producing a individual layers in which each layer has a side having a higher content of fines than the other side, and fails to teach that these sides having the higher fines content are couched together, as recited in at least independent claims 46 and 75. Moreover, as discussed above, the Examiner's interpretation of TURNER's disclosure is colored by his review of Appellants' disclosure and claims. Similarly, Appellants submit that the Examiner's

assertions of obviousness are likewise based upon this improper interpretation of TURNER as a result of a review of Appellants' invention.

Accordingly, Appellants submit that TURNER fails to provide the requisite motivation or rationale for modification in the manner asserted by the Examiner, and that the Examiner's assertions of obviousness are based, not upon any particular teaching or suggestion provided in TURNER, but instead are based upon an improper interpretation of TURNER after reviewing Appellants' disclosure and claims. Thus, Appellants submit that the instant obviousness rejection is based upon the use of impermissible hindsight, such that Appellants invention suggests the Examiner's interpretation of the art of record.

Further, because TURNER fails to provide any teaching or suggestion with regard to forming a web ply having a surface with a higher fines content than its other surface, Appellants submit that TURNER cannot teach or suggest the recited apparatus and/or process features of the present invention that achieve this result. Accordingly, Appellants submit that no proper modification of TURNER teaches or suggests the combination of features recited in at least the independent claims, and, therefore, that TURNER fails to render unpatentable the instant invention.

In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the Examiner to provide a reason *why* one of ordinary skill in the art would have found it obvious to modify a prior art reference or to combine reference teachings to

arrive at the claimed invention. *See Ex parte Clapp*, 227 USPQ 972 (BPAI 1985) To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from Applicant's disclosure. See, for example, *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Notwithstanding the Examiner's statement in the rejection that it would have been obvious to modify TURNER, Appellants contend that the Examiner has not set forth any reasons *why* one of ordinary skill in the art would have been led to modify the apparatus and process of TURNER. It is respectfully submitted that the courts have long held that it is impermissible to use Appellants' claimed invention as an instruction manual or "template" to piece together teachings of the prior art so that the claimed invention is purportedly rendered obvious. *See In re Fritch*, 972 R.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

While the Examiner has made sweeping unsubstantiated assertions regarding the interchangeability of various formers, he has not provided any teaching or suggestion why it would have been obvious or even possible for these formers to produce a web layer having a higher content of fines on one side, as is recited in the pending claims. By way of example, Appellants note that, while TURNER discloses a former that includes two converging forming wires, the crescent former of U.S. Patent No. 3,378,435 includes a forming wire and a felt arranged to converge. Thus, as the two formers are structurally distinct from each

other, Appellants submit that it is not apparent that substituting a crescent former for the former of TURNER would enable TURNER to operate in its intended manner, i.e., there is no teaching or suggestion in the art of record that the crescent former forms a layer having a bonding surface with a higher content of fines than fillers, as required by TURNER. Similar defects arise with the Examiner's other baseless assertions of obviousness.

Because it is not apparent from the art of record that the crescent former (or any other type of former) will enable TURNER to operate in its intended manner, Appellants submit that the art of record fails to provide the necessary motivation or rationale for combining the applied art in the manner asserted by the Examiner.

Moreover, because the Examiner has not shown that it would have been apparent from the disclosure TURNER to form the web layers having one side with a higher fines content than the other side, Appellants submit that there is certainly no suggestion of an arrangement in which sides of web layers having the higher fines content are couched together in a couching zone, as recited in at least independent claims 46 and 75.

As alluded to above, Appellants note that the Examiner has not provided any documentary evidence that changing the former of TURNER would not prevent TURNER from forming its intended web plies, i.e., to be uniform on each side with regard to fines, fillers and fibers, and to exhibit a higher content of fines than fillers on both sides of each ply. In other words, while, generally speaking, formers are utilized for similar purposes, i.e.,

to form and dewater the web, there is no teaching or suggestion that any of the formers noted by the Examiner would achieve the desired results of TURNER, and certainly no suggestion that these formers would operate in the manner recited in at least independent claims 46 and 75.

Moreover, Appellants submit that, if the desired results of TURNER are not achieved by the asserted modification, then it would not have been obvious to modify TURNER in the manner set forth by the Examiner. Further, Appellants note that it is the Examiner's burden to show that the asserted modification would not be contrary to the intended operation of TURNER, which the Examiner has not shown.

Of course, Appellants further submit that, even assuming, *arguendo*, that the art of record suggested that the asserted modification of TURNER enabled modified TURNER to operate in its intended manner (which Appellants submit it does not), such an apparatus or process, as discussed above, does not correspond to the apparatus and process recited in at least independent claims 46 and 75. Thus, notwithstanding whether the asserted modification is proper (which Appellants submit it is not), no proper modification of TURNER renders the instant invention obvious.

Further, Appellants submit that even if it is considered that the prior art documents render unpatentable the invention recited in the independent claims, which Appellants submit they do not, the applied documents fail to anticipate the various recited parameters of the



formers and/or their arrangement within the apparatus for producing the multilayered web in accordance with the features of the instant invention. Thus, Appellants submit that claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Appellants further submit that claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 are separately patentable TURNER. In particular, Appellants submit that TURNER fails to teach or suggest, *inter alia*, said at least one gap former comprises two circulating continuous dewatering belts convergingly arranged to form a headbox nip, and in which said dewatering belts are guided in an area of said headbox nip over a forming element, as recited in claim 48; a headbox arranged to supply a fibrous suspension to said headbox nip, as recited in claim 49; said forming element comprises a *forming roll*, as recited in claim 50; said at least one gap former comprises a *first gap former* and a *second gap former* arranged to form at least two layers, wherein *the higher content of fines side of said at least two layers occurs on a forming element side*, as recited in claim 51; the *web travel directions* of said first and second gap formers are *opposite each other*, as recited in claim 52; a first layer of the at least two layers to be couched together, is created by a fourdrinier former and sheet formation of the first layer occurs with the *higher content of fines on an outer side facing away from a continuous wire*, and wherein a second layer is created by said at least one gap former and sheet formation occurs in the second layer with

*a higher content of fines on the forming element side*, as recited in claim 62; *a stream direction* of a headbox associated with said first gap former *correlates in general with the travel direction of the first layer* created by said fourdrinier former, as recited in claim 63; the second layer created by said at least one gap former is introduced, after a separation of said two dewatering belts of said at least one gap former, *together with said outer dewatering belt into said couching zone* in which the second layer is joined with said continuous belt for the first and second layers to be couched together, as recited in claim 64; said continuous wire is guided in said couching zone in a generally horizontal direction, as recited in claim 65; *a second gap former* arranged to form a third layer, wherein sheet formation of the third layer occurs with a higher content of fines on a forming element side, and wherein the third layer is couched together with the second layer in a second couching zone, as recited in claim 66; the stream direction of a headbox associated with said *second gap former* corresponds to the travel direction of the first layer created by said fourdrinier former, as recited in claim 67; the third layer is introduced after separation of said two dewatering belts of said *second gap former* together with said outer dewatering belt into said second couching zone, wherein the second layer is brought together with said continuous belt for couching together the second and third layers formed by said first and second gap formers, as recited in claim 68; said continuous wire is guided at least in the area of said couching zones in a generally horizontal direction, as recited in claim 69; *at least one additional gap former* arranged for

the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other, as recited in claim 70; the stream direction of said headbox associated with said *at least one additional gap former* corresponds to the travel direction of the fibrous web to be created, as recited in claim 71; at least one of a *multi-layered headbox* and a *single layered headbox* is provided, as recited in claim 72; at least one *single layered headbox* is provided, as recited in claim 73; the at least one gap former comprises two circulating continuous dewatering belts that run together forming a headbox nip and which are guided in the area of the headbox nip, loaded with a fibrous suspension by a headbox, over a forming element, as recited in claim 77; the forming element comprises a *forming roll*, as recited in claim 78; the at least one gap former comprises a *first gap former* and a *second gap former* arranged to form at least two layers, wherein the *higher content of fines side of said at least two layers occurs on a forming element side*, as recited in claim 79; the *first and second gap formers* are operated in *opposite web travel directions*, as recited in claim 80; the first of the at least two layers to be couched together is created by a fourdrinier former and sheet formation of the first layer occurs with a *higher content of fines on the*

*outside facing away from the continuous wire*, and the second layer is created by the at least one gap former and sheet formation occurs in the second layer with *a higher content of fines on a forming element side*, as recited in claim 89; the *stream direction* of a headbox associated with the first gap former *correlates in general with the travel direction of the first layer created by the fourdrinier former*, as recited in claim 90; the second layer created by the at least one gap former is guided to the couching zone after separation of the two dewatering belts of the at least one gap former *together with the outer dewatering belt*, in which the second layer is joined together with the continuous belt for the first and second layers to be couched together, as recited in claim 91; a *second gap former* is arranged to form a third layer wherein sheet formation of the third layer occurs with a higher content of fines on the forming element side, and wherein the third layer is couched together with the second layer in a second couching zone, as recited in claim 92; the stream direction of a headbox associated with the *second gap former* corresponds to the travel direction of the first layer formed by the fourdrinier former, as recited in claim 93; the *third layer* is introduced after separation of the two dewatering belts of the *second gap former* together with the outer dewatering belt into the second couching zone in which it is brought together with the continuous belt for the couching of the second and third layer formed by the first and second gap formers, as recited in claim 94; at least one *additional gap former* is arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional

layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other, as recited in claim 95; the *stream direction* of a headbox associated with the *additional gap former* corresponds to the *travel direction of the fibrous web* to be created, as recited in claim 96; and at least one of a *multi-layered headbox* and *single-layered headbox* is used, as recited in claim 97.

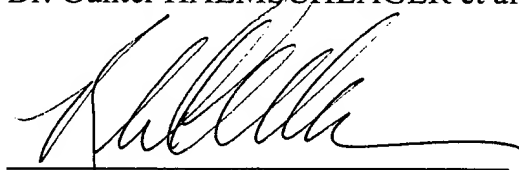
Accordingly, Appellants request that the Board reverse the Examiner's decision to finally reject claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 under 35 U.S.C. § 103(a), and that the application be remanded to the Examiner for withdrawal of the rejection over TURNER and an early allowance of all claims on appeal.

**(C) Conclusion**

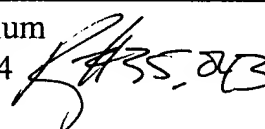
Claims 46, 47, and 74 - 76 are patentable under 35 U.S.C. § 102(b) over TURNER; and claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 under 35 U.S.C. § 103(a) over TURNER. Specifically, the applied art of record fails to anticipate or render unpatentable the invention recited in Appellants' claims 46 - 52, 62 - 80, and 89 - 97. Accordingly, Appellants respectfully request that the Board reverse the outstanding rejections of the claims 46, 47, and 74 - 76 under 35 U.S.C. § 102(b) and of claims 48 - 52, 62 - 73, 77 - 80, and 89 - 97 under 35 U.S.C. § 103(a), and remand the application to the Examiner for withdrawal of the rejections and allowance of the application.

Thus, Appellants respectfully submit that each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a), and that the present application and each pending claim are allowable over the prior art of record.

Respectfully submitted,  
Dr. Günter HALMSCHLAGER et al



Neil F. Greenblum  
Reg. No. 28,394



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October 21, 2003  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191

Attachment: Appendix: Claims on Appeal

**APPENDIX**

***CLAIMS ON APPEAL***

46. A machine for the production of a multi-layered fibrous web, comprising:  
at least two formers for forming at least two layers in which each layer has a higher content of fines on one side respectively; and

a couching zone in which the at least two layers are couched together such that each layer's side having a higher content of fines contact each other;

wherein at least one of the at least two formers comprises at least one gap former.

47. The machine according to claim 46, wherein the fibrous web comprises one of a paper web and cardboard web.

48. The machine according to claim 46, wherein said at least one gap former comprises two circulating continuous dewatering belts convergingly arranged to form a headbox nip, and in which said dewatering belts are guided in an area of said headbox nip over a forming element.

49. The machine according to claim 48, further comprising a headbox arranged to supply a fibrous suspension to said headbox nip.

50. The machine according to claim 48, wherein said forming element comprises a forming roll.

51. The machine according to claim 49, wherein said at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers,



wherein the higher content of fines side of said at least two layers occurs on a forming element side.

52. The machine according to claim 51, wherein the web travel directions of said first and second gap formers are opposite each other.

62. The machine according to claim 48, wherein a first layer of the at least two layers to be couched together, is created by a fourdrinier former and sheet formation of the first layer occurs with the higher content of fines on an outer side facing away from a continuous wire, and wherein a second layer is created by said at least one gap former and sheet formation occurs in the second layer with a higher content of fines on the forming element side.

63. The machine according to claim 62, wherein a stream direction of a headbox associated with said first gap former correlates in general with the travel direction of the first layer created by said fourdrinier former.

64. The machine according to claim 62, wherein the second layer created by said at least one gap former is introduced, after a separation of said two dewatering belts of said at least one gap former, together with said outer dewatering belt into said couching zone in which the second layer is joined with said continuous belt for the first and second layers to be couched together.

65. The machine according to claim 64, wherein said continuous wire is guided in said couching zone in a generally horizontal direction.

66. The machine according to claim 62, further comprising a second gap former arranged to form a third layer, wherein sheet formation of the third layer occurs with a higher content of fines on a forming element side, and wherein the third layer is couched together with the second layer in a second couching zone.

67. The machine according to claim 66, wherein the stream direction of a headbox associated with said second gap former corresponds to the travel direction of the first layer created by said fourdrinier former.

68. The machine according to claim 66, wherein the third layer is introduced after separation of said two dewatering belts of said second gap former together with said outer dewatering belt into said second couching zone, wherein the second layer is brought together with said continuous belt for couching together the second and third layers formed by said first and second gap formers.

69. The machine according to claim 66, wherein said continuous wire is guided at least in the area of said couching zones in a generally horizontal direction.

70. The machine according to claim 53, further comprising at least one additional gap former arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element

side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other.

71. The machine according to claim 70, wherein the stream direction of said headbox associated with said at least one additional gap former corresponds to the travel direction of the fibrous web to be created.

72. The machine according to claim 70, wherein at least one of a multi-layered headbox and a single layered headbox is provided.

73. The machine according to claim 48, wherein at least one single layered headbox is provided.

74. The machine according to claim 46, further comprising uniform pressure dewatering elements for web dewatering.

75. A process for the production of a multi-layered fibrous web, comprising:  
forming at least two layers via at least two formers, such that each layer has a side with a higher fines content;

couching together the at least two layers in a couching zone so that the sides with higher fines content contact each other;

wherein at least one of the at least two layers is formed by at least one gap former.

76. The process according to claim 75, wherein the fibrous web comprises one of a paper web or a cardboard web.

77. The process according to claim 75, wherein the at least one gap former comprises two circulating continuous dewatering belts that run together forming a headbox nip and which are guided in the area of the headbox nip, loaded with a fibrous suspension by a headbox, over a forming element.

78. The process according to claim 77, wherein the forming element comprises a forming roll.

79. The process according to claim 77, wherein the at least one gap former comprises a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of said at least two layers occurs on a forming element side.

80. The process according to claim 79, wherein the first and second gap formers are operated in opposite web travel directions.

89. The process according to claim 75, wherein the first of the at least two layers to be couched together is created by a fourdrinier former and sheet formation of the first layer occurs with a higher content of fines on the outside facing away from the continuous wire, and the second layer is created by the at least one gap former and sheet formation occurs in the second layer with a higher content of fines on a forming element side.

90. The process according to claim 89, wherein the stream direction of a headbox associated with the first gap former correlates in general with the travel direction of the first layer created by the fourdrinier former.

91. The process according to claim 89, wherein the second layer created by the at least one gap former is guided to the couching zone after separation of the two dewatering belts of the at least one gap former together with the outer dewatering belt, in which the second layer is joined together with the continuous belt for the first and second layers to be couched together.

92. The process according to claim 89, wherein a second gap former is arranged to form a third layer wherein sheet formation of the third layer occurs with a higher content of fines on the forming element side, and wherein the third layer is couched together with the second layer in a second couching zone.

93. The process according to claim 92, wherein the stream direction of a headbox associated with the second gap former corresponds to the travel direction of the first layer formed by the fourdrinier former.

94. The process according to claim 92, wherein the third layer is introduced after separation of the two dewatering belts of the second gap former together with the outer dewatering belt into the second couching zone in which it is brought together with the

continuous belt for the couching of the second and third layer formed by the first and second gap formers.

95. The process according to claim 79, wherein at least one additional gap former is arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other.

96. The process according to claim 95, wherein the stream direction of a headbox associated with the additional gap former corresponds to the travel direction of the fibrous web to be created.

97. The process according to claim 77, wherein at least one of a multi-layered headbox and single-layered headbox is used.